

a) first and second polepieces having axial bores coaxially disposed along a common axis;

b) an electrical conductor wound around said polepieces in a plurality of turns;

c) an armature slidably disposed in said axial bores;

d) a bearing axially disposed in one of said first and second polepieces; and

e) a shaft attached coaxially to said armature and extending through a supportive bore in said bearing, said shaft being axially displaceable by electromagnetic displacement of said armature to provide said actuation.

10 Please add new claims 8-12 as follows:

8. (New) A solenoid for providing linear actuation, comprising:

a) a housing;

b) first and second polepieces, within said housing, having axial bores coaxially disposed along a common axis;

c) an electrical conductor wound around said polepieces in a plurality of turns;

d) an armature slidably disposed in said axial bores;

e) a bearing axially disposed in one of said first and second polepieces; and

f) a shaft attached coaxially to said armature and extending through a supportive bore in said bearing, said shaft being axially displaceable by electromagnetic displacement of said armature to provide said actuation.

9. (New) A solenoid in accordance with Claim 8 wherein said armature is separated from said polepieces by a generally cylindrical air gap.

10. (New) A solenoid in accordance with Claim 8 wherein said armature is frusto-conical.